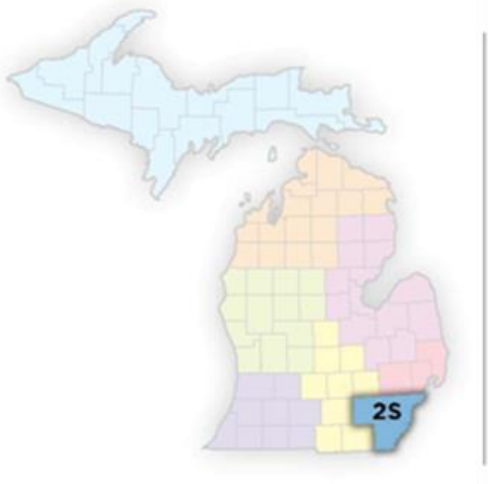
MICHIGAN DEPARTMENT OF HEALTH & HUMAN SERVICES

Michigan Regional Trauma Report

Region 2S



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EXECUTIVE SUMMARY

Region 2 South (R2S) is the most populous region in the state with more than 2.2 million residents. The region is comprised of Monroe, Washtenaw, and Wayne counties, and includes the city of Detroit. The region has two international border crossings with Canada and shares a border with northwestern Ohio. In addition to its renown as an industrial and manufacturing center, the region is also home for major corporate headquarters, and several universities including the University of Michigan, Eastern Michigan University, University of Detroit Mercy, Concordia University, Madonna University, and Wayne State University.

Region 2 South is served by 21 acute care hospitals, 92 EMS agencies, 4 EMS Medical Control Authorities, and 4 local health departments. The region is home to 13 American College of Surgeons (ACS) Committee on Trauma (COT) verified trauma centers, including three Adult Level I, five Adult Level II, and three Level III facilities; the region's children are served by two Pediatric Level I and one Pediatric Level II trauma centers. One additional hospital is currently in the ACS verification process as an Adult Level II trauma facility.

This annual report describes the region's progress toward trauma system development during 2014. It includes the ongoing activities of the Region 2 South stakeholders in the implementation of a regional trauma plan that addresses the system components of leadership, public information, injury prevention, human resources, communications, medical direction, triage, transport, trauma facilities, transfers, rehabilitation, and evaluation of patient care.

The R2S trauma system is governed by a Regional Trauma Network (RTN), Regional Trauma Advisory Council (RTAC), and a Trauma Steering Committee (TSC). The 4 Medical Control Authorities (MCAs) in the region constitute the RTN: the Washtenaw-Livingston MCA, the Monroe County MCA, the Detroit East MCA (DEMCA), and the Wayne County MCA (HEMS). The RTN leadership is comprised of the medical directors from each of the MCAs.

The purpose of the RTAC is to provide leadership and direction in trauma system development, and to monitor the performance of the agencies and healthcare facilities within the region. The RTAC membership is intended to maximize the inclusion of all trauma care constituencies within the region, from injury prevention, to trauma response and trauma care, and through rehabilitation.

The Trauma Steering Committee consists of the four RTN medical directors and the trauma medical director from each trauma care facility in the region. The TSC provides direction and supervision for the activities of the Regional Trauma Advisory Council and the subcommittees.

The R2S trauma system was formally recognized in June 2014 following approval of its application and work plan by the Michigan Department of Health & Human Services (MDHHS) - Trauma Section, and upon the recommendations of the State Trauma Advisory Council (STAC) and the Emergency Medical Services Coordination Committee (EMSCC).

The region has begun to address the 20 objectives of the R2S work plan. The region completed an evaluation of current trauma resources and then developed a comprehensive work plan with measurable and obtainable objectives. This work has begun through the establishment and work of 7 subcommittees: Access and Communications, Medical Oversight, Bypass and Diversion, Data, Injury Prevention, Education and Training, and a Professional Standards Review Organization. These committees have

begun the analysis of the work plan objectives and are developing interim objectives and processes. These initial work plan objectives are scheduled for completion over the next 2 ½ years.

The work of the various constituencies within the subcommittees has promoted coalition building within the region, and has fostered broad-based agency involvement in trauma system development.

By January of 2015, all 14 of the region's existing ACS verified trauma facilities will have been designated by the State of Michigan. The region also anticipates final ACS-COT first time verification of one additional trauma facility. In 2015, the residents and visitors in Region 2 South will be served by 14 ACS-COT verified, state designated trauma care facilities, including one facility with dual adult and pediatric verifications.

DEVELOPING THE REGIONAL TRAUMA NETWORK

All MCAs in a region are required to participate in the Regional Trauma Network, to appoint an advisory committee, and to develop a regional trauma plan. The trauma plan will encompass the comprehensive and integrated arrangement of emergency medical services, hospitals, equipment, personnel, communications, medical control authorities, and stakeholder organizations needed to provide trauma care to all patients within the region. The Region 2 South Trauma Network membership is comprised of the 4 medical directors or designees of the region's four participating MCAs.

Each RTN is tasked with developing bylaws, submitting a Regional Trauma Network application and developing a work plan to address components relating to trauma activities, including: injury prevention, access to the trauma system, communications, medical oversight, pre-hospital triage criteria, trauma diversion policies, trauma bypass protocols, regional trauma treatment guidelines, regional quality improvement plans, and trauma education.

The goal of each region's trauma network and advisory committee is to implement an "all-inclusive" trauma system in their region. This system will provide for the care of all injured patients in a regional and statewide integrated system of health care for both the pre-hospital and healthcare facility environments, and will include personnel that are well trained and equipped to care for injured patients of any severity. Each healthcare facility can participate in the trauma system to the extent or level that it is willing to commit the resources necessary for the appropriate management of the trauma patients. This ensures that all trauma patients are served by a system of coordinated care, based on the degree of injury and extent of care required.

The purpose of the Regional Trauma Advisory Committee is to provide leadership and direction in matters related to trauma systems development in the region, and to monitor the performance of the agencies and healthcare facilities within the region, including, but not limited to, the review of trauma deaths and preventable complications. The R2S RTN has broadened membership eligibility for the advisory council in order to maximize the inclusion of the region's constituents. Members of the Region 2 South RTAC are designated in writing by the appointing MCA, hospital, Life Support Agency or other organization. Alternate members may be designated, and the appointing body may remove and replace its representative(s) at any time at its discretion.

The RTN is also required to appoint a Regional Professional Standards Review Organization (RPSRO) to improve trauma care, reduce death and disability, and to correct local and regional injury problems. The RPSRO is responsible for the regional trauma system improvement process while addressing specific standards incorporated in administrative rule 325.135(5). Each region is required to develop and implement a region wide trauma performance improvement program. The region is responsible for the assessment of its trauma care system through an ongoing evaluation of the components of the regional

plan, triage criteria and its effectiveness, activation of trauma teams, notification of specialists, and trauma care diversion. The results of the evaluation are to be reported annually to MDHHS, to include all region-wide policies, procedures, and protocols.

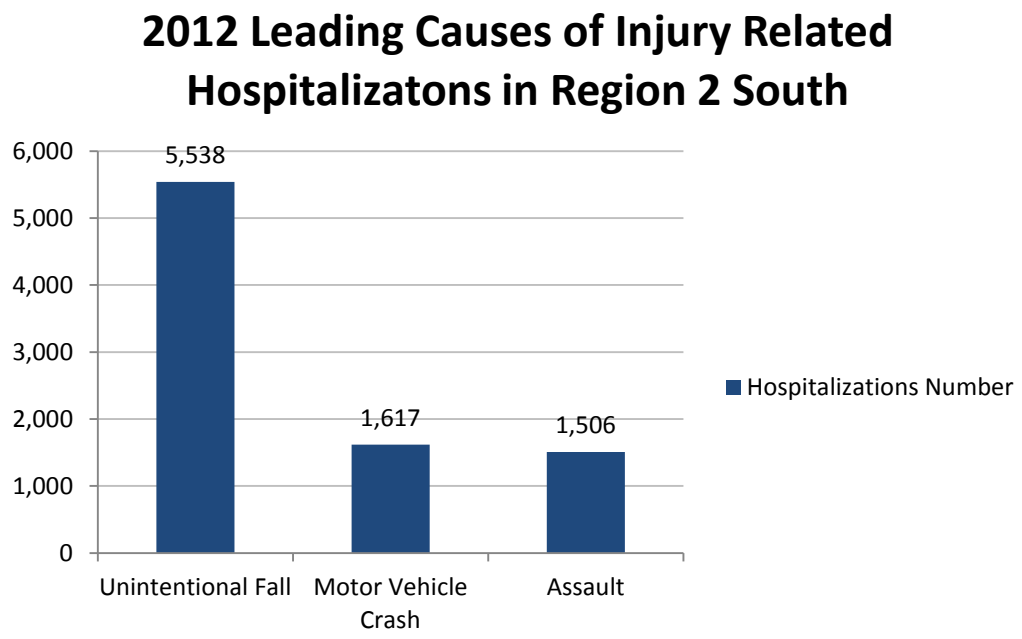
The RTN also established several subcommittees of the RTAC. The subcommittees appoint their individual chairpersons. The activities of the subcommittees must be approved by the RTAC before being submitted to the RTN for approval. The subcommittees are intended to address fundamental aspects of trauma system services, and to support the development and writing of reports.

All of the Region 2 South trauma network structures are in place. Hundreds of regional stakeholders are meeting regularly within the advisory council, steering committee, and subcommittees in order to improve trauma care in southeast Michigan.

EPIDEMIOLOGY

A systematic approach to trauma requires an assessment of the leading causes of injury and death for the 2.3 million residents of Region 2 South. Death and injury information are used to help guide the development of processes to improve injury prevention, incident response, injury care, and post-injury rehabilitation. This data, along with other data from the Michigan trauma registry, will be used to enhance system performance and to drive change.

In 2012, the leading causes of injury related hospitalizations were unintentional falls, motor vehicle accidents and assaults. Unintentional falls continue to be the leading cause of injury related hospitalizations in Region 2 South. The following chart illustrates the frequency of these injuries.



Source: Thomas W. Largo, MPH, Division of Environmental Health, Bureau of Disease Control, Prevention, and Epidemiology, Michigan Department of Health & Human Services, 2012 data.

THE REGIONAL WORK PLAN

Michigan Administrative Rule 325.132 requires that each regional network submit a comprehensive system development plan (work plan) as a component of formal recognition as an RTN. This work plan is a tool for guiding and measuring progress toward the ongoing development of the regional trauma system. The work plan is based on eleven required components for the regional trauma system:

1) System governance
2) Injury prevention
3) Access to the system
4) Communications
5) Medical oversight
6) Pre-hospital triage criteria
7) Trauma diversion policies
8) Trauma bypass protocols
9) Regional trauma treatment guidelines
10) Regional quality improvement plans
11) Trauma education

The members of the trauma region collaborated to evaluate the current status of each of these components against benchmarks (overarching goals, expectation or outcomes) as developed and published by the US Department of Health and Human Services (HRSA) in "*Model Trauma System Planning and Evaluation"* (2006). Following the evaluation and assessment of the region's current status, SMART objectives (Specific, Measurable, Attainable, Relevant and Time-bound) were developed for each component, with the goal of advancing the region's progress toward a mature, fully functioning, and all inclusive trauma system.

SYSTEM GOVERNANCE

Each region shall establish a regional trauma network. All MCAs within a region must participate in a regional network, and life support agencies shall be offered membership on the regional trauma advisory council. RTAC committees shall maximize the inclusion of their constituents. The regional trauma network establishes a process to assess, develop, and evaluate the trauma system in cooperation with the regional stakeholders in trauma care.

ACHIEVEMENTS

The Region 2 South RTN was formally approved in June 2014. Subcommittees were appointed and have begun meeting to address each element of the regional work plan. The RTAC is active, and members regularly attend meetings at which collaboration and consensus are building.

2015 FOCUS

The region will continue to ensure communication with all regional trauma stakeholders with the goal of maximizing inclusion in the development of the regional trauma system. It will also continue to develop and refine policies and procedures to guide system operations.

INJURY PREVENTION

The RTN, in cooperation with other agencies and organizations, uses analytical tools to monitor the performance of population-based (regional) injury prevention programs.

ACHIEVEMENTS

The Injury Prevention Subcommittee has begun an inventory of agencies, organizations and injury prevention programs within the region. A spreadsheet has been developed to track this agency/program inventory, and methods of keeping it current are being explored. The subcommittee is also investigating a partnership agency to coordinate regional injury prevention information sharing.

2015 FOCUS

The Injury Prevention Subcommittee will continue its effort to inventory agencies and programs, with the goal of partnering with an entity that will coordinate the injury prevention efforts among stakeholders in order to minimize duplication and inefficiency. The subcommittee will also be investigating a process by which it can monitor, evaluate, and report on regional injury prevention activities based on state trauma registry data.

CITIZEN ACCESS TO THE SYSTEM

The trauma system is supported by EMS medical oversight of dispatch procedures and coordinated response resources. The trauma system EMS medical directors are actively involved with the development, implementation, and ongoing evaluation of EMS system dispatch protocols to ensure they are congruent with the trauma system design. These protocols include, but are not limited to: which resources to dispatch (Advanced Life Support vs. Basic Life Support), air-ground coordination and early notification of the trauma facility, pre-arrival instructions, and other procedures necessary to ensure dispatched resources are consistent with the needs of injured patients. There are sufficient, well-coordinated air and ground ambulance resources to ensure that EMS providers arrive at the trauma scene to promptly and expeditiously transport the patient to the correct hospital by the correct transportation mode.

ACHIEVEMENTS

Region 2 South has an inventory of the multiple methods by which citizens access the EMS system, and the multiple dispatch protocols used by the various public safety access points within the region. Although medical oversight of dispatch agency protocol is not currently within the authority of the regional trauma system, the RTN has initiated an effort to collaborate with the local MCAs and relevant municipalities to encourage adoption of a consistent medical priority dispatch system.

2015 FOCUS

The region will collaborate with the State Trauma Advisory Council, the Statewide Emergency Medical Services Coordination Committee and the Department of Community Health to encourage adoption and implementation of a nationally recognized emergency medical priority dispatch program for all medical emergency dispatchers.

TRAUMA SYSTEM COMMUNICATIONS

The regional trauma system is supported by a coordinated communication system linking and integrating hospitals, life support agencies, the EMS system, and the Regional Trauma Network. There are established procedures for EMS and trauma system communications for major EMS events and multiple jurisdiction incidents that are effectively coordinated with the overall regional response plans. There is a procedure for communication among medical facilities when arranging for inter-facility transfers, including contingencies for radio or telephone system failure.

ACHIEVEMENTS

The Access and Communications Subcommittee has begun planning for a regional trauma communications exercise to evaluate the existing communication modalities and procedures for multi-casualty, multi-jurisdiction trauma incidents.

2015 FOCUS

The region is developing a regional trauma communication plan, and procedures, specific to ensuring communication among medical facilities that are arranging for inter-facility patient transfers.

MEDICAL OVERSIGHT

The regional trauma system is supported by active EMS medical oversight of trauma communications, pre-hospital triage, treatment, and transport protocols. There is well defined regional trauma system medical oversight integrating the specialty needs of the trauma system and the medical oversight of the overall EMS system. There is a clearly defined, cooperative, and ongoing relationship between regional trauma physician leaders and the EMS system medical directors in the region.

ACHIEVEMENTS

The Medical Oversight Subcommittee is in the process of developing a regional trauma triage and destination protocol. The RTN and local MCAs have developed a formal process for delineating the oversight relationship between trauma medical directors and EMS medical directors through the implementation of a Regional Trauma Steering Committee within the region's organizational structure.

2015 FOCUS

Complete work on an MDHHS approved regional trauma triage and destination protocol. The protocol will then need to be adopted and implemented by the region's MCAs, and education provided for the EMS providers.

PRE-HOSPITAL TRIAGE CRITERIA

The regional trauma system is supported by system-wide pre-hospital triage criteria. The region has adopted mandatory regional pre-hospital triage protocols to ensure that trauma patients are transported to an appropriate trauma center based on their injuries. The triage protocols are regularly evaluated and updated to ensure acceptable and region-defined rates of sensitivity, and specificity, for appropriate identification of a major trauma patient.

ACHIEVEMENTS

The Medical Oversight Subcommittee is in the process of developing a regional trauma triage and destination protocol.

2015 FOCUS

Following adoption, the triage and destination protocol will be implemented, and all EMS providers educated. The Medical Oversight subcommittee will collaborate with the Data subcommittee and the RPSRO to ensure that 95% of major trauma patients are transported to an appropriate trauma center based on their injuries.

TRAUMA DIVERSION POLICIES

Diversion policies ensure that acute care facilities are integrated into an efficient system to provide optimal care for all injured patients. The regional trauma network plan should ensure that the number, levels, and distribution of trauma facilities are communicated to all partners and stakeholders. The RTN should develop procedures to insure that trauma patients are transported to an appropriate facility that is prepared to provide care. The state trauma registry is used to identify and evaluate regional trauma care and improve the allocation of resources.

ACHIEVEMENTS

The Bypass and Diversion Subcommittee is following the progress of the regional hospital efforts to become verified and designated as trauma facilities. It has begun to inventory and evaluate the reasons for diversion within the region.

2015 FOCUS

As the number, level, and distribution of trauma facilities stabilizes, the subcommittee can begin to evaluate the system's performance.

TRAUMA BYPASS PROTOCOLS

The roles, resources, and responsibilities of trauma care facilities are integrated into a resource efficient, inclusive network that meets standards, and provides optimal care for injured patients. The regional trauma plan has clearly defined the roles, resources, and responsibilities of all acute care facilities treating trauma, and of facilities that provide care to specialty populations (spinal cord injury, burns, pediatrics, other). There is a regional trauma bypass protocol that provides EMS guidance for bypassing a trauma care facility for another more appropriate trauma care facility.

ACHIEVEMENTS

The Bypass and Diversion Subcommittee has begun a review of existing protocols to determine the current policies of the MCAs.

2015 Focus

The subcommittee will draft a trauma bypass protocol based on an assessment of regional hospital designations and provisional statuses.

REGIONAL TRAUMA TREATMENT GUIDELINES

The regional trauma network ensures optimal patient care through the development of regional trauma treatment guidelines. When injured patients arrive at a medical facility that cannot provide the appropriate level of definitive care, there is an organized and regularly monitored system to ensure that the patients are *expeditiously transferred* to the appropriate, system-defined trauma facility. Data collected from a variety of sources is used to review the appropriateness of all-inclusive regional trauma performance standards, from injury prevention through rehabilitation.

ACHIEVEMENTS

The Data Subcommittee has collaborated with the current ACS verified trauma facilities to begin the process of submitting data from the previous year to the Michigan Trauma Registry. This data submission is needed to achieve the region's work plan objectives, as well as to conform to the requirements of state designation. Once sufficient data has been submitted to the state trauma registry, evaluation of standards can proceed. Currently, 12 of the 14 verified and provisional trauma facilities in the region have submitted data to the Michigan Trauma Registry.

2015 FOCUS

The subcommittee will continue to collaborate with the hospitals in the region to get trauma data submitted to the state trauma registry. As the data becomes more complete, the Data Subcommittee will work with the RPSRO to evaluate consistency of inter-facility patient transfers and additional performance standards as required by Michigan Administrative Rules, and as determined by the region.

REGIONAL QUALITY IMPROVEMENT PLANS

The RTN/RTAC uses system data to evaluate system performance, and regularly reviews system performance reports to develop regional policy. No less than once per year, the RTN generates data reports that are disseminated to all trauma system stakeholders to evaluate and improve system performance.

ACHIEVEMENTS

The Data Subcommittee has cooperated in sharing best practices for uploading the prior year's National Trauma Data Bank (NTDB) data into the Michigan Trauma Registry. The region needs a complete data set from all participating trauma facilities in order to begin a system performance analysis. The region currently has data uploaded from 12 of its 14 verified and provisional trauma facilities.

2015 FOCUS

The Data Subcommittee and the RPSRO will collaborate on an initial analysis and evaluation of system performance based upon the components detailed in the Michigan Administrative Rules.

TRAUMA EDUCATION

The regional trauma network ensures a competent workforce through trauma education standards. The regional trauma network establishes and ensures appropriate levels of EMS, nursing, and physician trauma training courses are provided on a regular basis.

ACHIEVEMENTS

In 2014, the Education Subcommittee drafted an outline for minimum standardized training guidelines for Level 1, 2 and 3 trauma facilities. The guidelines were approved by the RTAC with a phased implementation schedule. Work has begun on guidelines for Level 4 trauma facilities.

2015 Focus

The Education Subcommittee will continue to work on standardized education guidelines in 2015. In addition, the subcommittee will begin work on a procedure for communicating to all regional trauma care providers when new protocols and treatment approaches are instituted within the region.

BEST PRACTICES / SUCCESSES

Region 2 South had a great deal of success in developing and codifying the components of a nascent regional trauma care system in 2014. The region established its governance, evaluated its current operational status against national benchmarks, and developed a set of objectives which will serve to improve how trauma care is provided within the region.

The region's application for recognition as a Regional Trauma Network was approved in June of 2014. The Region 2 South Trauma Advisory Council established seven subcommittees that have begun to address the region's 22 approved work plan objectives, and the subcommittees have produced substantive work toward achieving those objectives.

Twelve of the region's fourteen ACS-COT verified trauma facilities received designation from the State of Michigan in 2014, and it is anticipated that an additional three ACS-COT verified trauma facilities will be designated early in 2015. In addition, Region 2 South will have the opportunity to support another five hospitals in their efforts to become designated as Level 3 or 4 trauma care facilities after the "in state" verification process is initiated in late 2015 and early 2016.

SUMMARY

The accomplishments of 2014 have Region 2 South well positioned for a breakout year of trauma system development in 2015. As work on regional objectives progresses, and as trauma care data becomes more accessible for analysis to guide subsequent improvements in the system, the region's momentum toward conformity and consistency in trauma care will be greatly enhanced.